# CHAPTER 3. MAGTF IMINT
# UNITS AND ORGANIZATIONS

Within the Marine Corps, units responsible for the conduct of tactical IMINT are the MCISU, IIPs, intelligence direct support teams, VMUs, VMFA(AW)s, and ground reconnaissance elements. This chapter describes these units' missions, tasks, organization, and concepts of employment.

## 3001.   MARINE CORPS IMAGERY SUPPORT UNIT

### Mission

The mission of the MCISU provides imagery analysis support for the MARFORs, MEFs, other MAGTFs, the Marine Corps supporting establishment, and other commands as directed.

### Tasks

l   Support and assist the operating forces in all matters pertaining to imagery exploitation, employment of the MCISU, and the maintenance of all organic imagery and imagery-related equipment.
l   Exploit and analyze national imagery to derive intelligence pertaining to installations, dispositions, strengths, and activities of conventional and nonconventional forces.
l   Conduct exploitation and related tasks in response to the supported unit.
l   Provide IMINT reports, limited imagery-derived products, and limited secondary imagery to MAGTF commanders and others as directed.
l   Conduct liaison with the IIP for providing national imagery and imagery products support to MAGTF commanders.
l   Manage, update, and maintain national imagery databases as required to support production responsibilities and daily operations.

### Organization

The sole MCISU, located at Camp Pendleton, CA, consists of a headquarters section, one exploitation team, and one special intelligence (SI) communications section table of organization ([T/O] 4710E) (see figure 3-1).
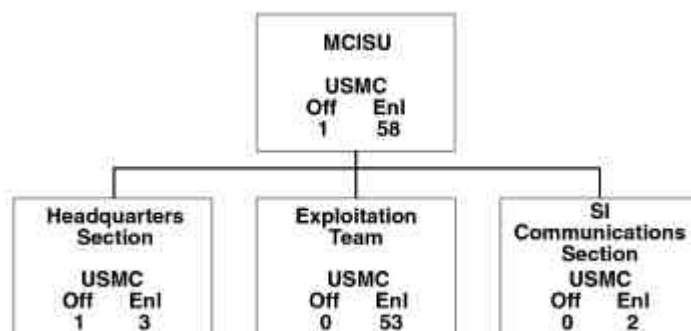


**Figure 3-1. MCISU Organization.**

### Command and Control

The MCISU typically operates in general support of the operating forces. It or detachments may be placed in either direct support or attached to a MAGTF CE, with the MAGTF commander maintaining full OPCON of its activities.

### Staff Cognizance

The supported MAGTF commander will exercise C2 over the MCISU or its detachments through the MAGTF intelligence officer. Such a relationship allows for the centralized direction and effective integration of MCISU operations within the broader MAGTF all-source intelligence concept of operations.

### Support Relationships

When attached to a MAGTF, the MCISU will most typically operate in general support. However, the MCISU or its elements may be employed in direct support of a particular unit or major support elements of the MAGTF. In such cases, the scope of the supported commander's OPCON or other C2 relationship over assigned MCISU elements must be specified to ensure effective support to the supported unit while allowing the MAGTF commander to maintain effective control of broader intelligence and IMINT operations.

## Concept of Employment

The MCISU is capable of simultaneously supporting the operating forces (multiple MAGTFs) and the supporting establishment 24 hours a day, 7 days a week. Support will normally be provided from the MCISU garrison location at Camp Pendleton. The MCISU operates the national systems portion of Joint Service Intelligence Processing System (JSIPS). The JSIPS national system is functionally housed in five shelters. These shelters include—

l    National Input Segment for receipt of imagery and data processed from national sources over special communications networks.
l    Hardcopy Exploitation Segment and Softcopy Exploitation Segment providing imagery exploitation workstations and equipment.
l    Communications Support Segment to provide secure voice, data, and secondary imagery dissemination interfaces.
l    Exploitation Support Segment (contained in the same shelter as the communications support segment) providing memory and computer power to support exploitation management, intelligence database management, and report generation capability.
l    System Support Segment to provide power, environment control and maintenance capabilities.

Together these segments provide the processing, production and dissemination capabilities, and key supporting CIS connectivity (e.g., the Trojan Spirit II communications system) for imagery receipt, processing, exploitation, and production. IMINT reports and imagery-derived products are typically exploited and prepared by MCISU personnel and then disseminated via data communications to the other key portion of JSIPS, the

tactical exploitation group, located with the MAGTF IIP; the IIP will then make follow-on dissemination to the MEF P&A cell or other commands/ units as appropriate.

## Miscellaneous

### Communications and Information Systems
The MCISU has a limited amount of CIS equipment to support deployments and will require support from the supported unit. Communications circuits required by the MCISU will be designated TSP-01 circuits. Additional information is provided in chapter 5.

### Maintenance
The MCISU is capable of 1st echelon maintenance of all organic equipment and 1st through 4th echelon maintenance of organic imagery equipment. All other maintenance support must be provided by the I MEF headquarters group or, when deployed, the supported unit.

### Transportation
The MCISU has no organic transportation capability to support deployed detachments. When deployed all transportation support must be provided by the supported unit.

### Equipment
Table 3-1 provides a list of selected MCISU equipment.

**Table 3-1. MCISU Equipment.**

| Table of Authorized Material Number | Description/Remarks* | Quantity |
|---|---|---|
| A0871 | Suite, analysis system, intelligence, AN/UYQ-69(V)1 | 1 |
| A0884 | Joint Services Imagery Processing System (JSIPS), AN/TSQ-166(V) | 1 |
| A1080 | Network workstation (V2), RSC-1X 6 A1217 Interpretation set, photo, unit | 4 |
| A1218 | Interpretation set, photo, team | 9 |
| *The T/E number for the MCISU is N4010. | | |

## 3002.  IMAGERY INTELLIGENCE PLATOON, INTELLIGENCE BATTALION

## Mission

The mission of the IIP is to provide imagery analysis and IMINT support to MAGTFs and other commands as directed.

## Tasks

l  Exploit and analyze all-source, multi-sensor imagery to derive intelligence pertaining to installations, dispositions, strengths, and activities of various conventional and nonconventional forces.

l Employ imagery methods and techniques in the planning and tasking of multi-sensor platforms, organic and external to the MEF or supported MAGTF.
l Conduct exploitation and assist in imagery management.
l Provide IMINT reports, limited imagery-derived products, and secondary imagery to the MEF and other commanders.
l Conduct liaison with the MCISU for the purpose of obtaining imagery products in support of MEF or supported commander's IRs.

## Organization

Each MEF has one organic IIP. It is a subordinate unit of the P&A company, intel bn. Each IIP is organized into three elements: a platoon headquarters, two tactical imagery analysis sections, and three imagery analysis teams (see figure 3-2).

The 4th Imagery Interpretation Unit (IIU) is in the reserves. It is organized into a headquarters section, four imagery teams, and a general intelligence support team. It is OPCON to Marine Corps Forces Reserve and ADCON to Marine Air Control Squadron 23. A memorandum of understanding exists that enables the MCIA to task and coordinate 4th IIU imagery exploitation, production, and training support of operating forces requirements.

## Command and Control

The IIP is a subordinate unit of the intel bn, with the intel bn commander maintaining full command of its operations. When supporting smaller MAGTFs, the IIP or its detachments will operate under the C2 of either the intel detachment OIC or the supported unit's G-2/S-2.

### MEF CE Staff Cognizance
The MEF commander usually exercises C2 over the intel bn elements, to include the IIP, via the MEF intelligence officer. The ISC performs this function, however, under the staff cognizance of the AC/S G-2.

The ISC in turn exercises C2 of Topo Plt via the P&A cell OIC. This allows for the centralized direction and effective integration of IIP operations with other MEF IMINT operations and the broader all-source intelligence concept of operations.
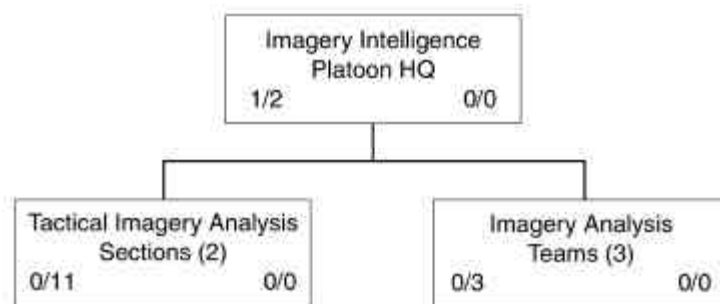


**Figure 3-2. IIP Organization.**

### Support Relationships

***General Support.*** The IIP will typically operate in general support of the MEF. Under general support, the MEF commander, through the G-2 and the ISC, determines priorities of intelligence collections and production support, locations of IMINT support nodes, and IMINT and all-source intelligence dissemination.

***Direct Support and Attached.*** Depending upon METT-T considerations, the IIP or task-organized imagery analysis detachments from it may be employed in direct support of or attached to a particular unit or MSC of the MEF. In such cases the scope of the supported commander's C2 authority over assigned IIP elements will usually be specified to ensure effective support to operations while allowing the MEF commander to maintain effective C2 of broader intelligence and IMINT operations. Direct support or attachment may consist of dedicated imagery exploitation support, placement of IIP assets with the supported unit, or simply establishing an IMINT node to provide direct dissemination of imagery and IMINT to the supported unit's intelligence section or COC. In the latter relationship, an IIP liaison element should be provided to the supported unit and continuing relationships between IMINT elements and supported units should be established whenever possible.
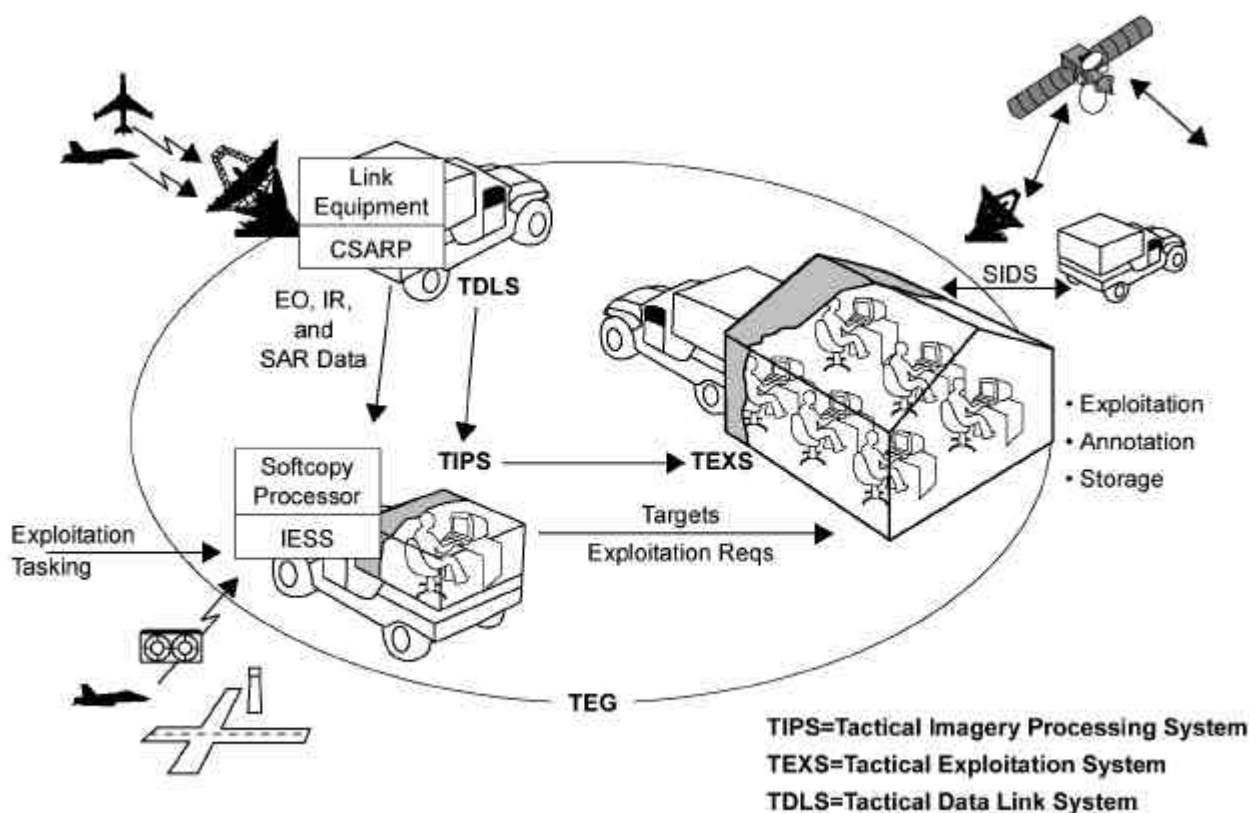
## Concept of Employment

An IIP is capable of supporting one MEF. In support of MEU(SOCs) or other MAGTFs, a task-organized imagery analysis detachment may be attached to the MAGTF CE either independently or as part of a larger intel bn detachment.

The reserve 4th IIP conducts peacetime training and production activities in garrison at Buckley Air National Guard Base, Aurora, CO. All IIP production activities support Marine Corps operating forces' OPLAN intelligence requirements. The 4th IIP is capable of providing 24-hour contingency support on-site or providing limited personnel for active duty support.

*Note: Activation of X/C-coded billets or global sourcing from other IIPs may be required for some operations.*

During MEF operations, the operation of the tactical exploitation group (TEG), the principal portion of JSIPS, will be a focal point of IIP support (see figure 3-3 on page 3-6). Each IIP in the operating force will have one TEG. It is packaged in three high mobility, multi-purpose wheeled vehicles (HMMWVs). The TEG has the capability to receive, exploit, and produce imagery and IMINT products and reports in support of MAGTF requirements. As such, it will be interoperable with EO, infrared, and radar imagery from ATARS-equipped USMC F/A-18D; the synthetic aperture radar (SAR) system (ASARS-2) aboard the U-2R/U-2S; and with the MCISU, combatant command JICs, and other imagery platforms and organizations. Additionally, the TEG provides the capability to exploit film-based imagery and output from digital cameras and various aircraft heads-up displays/forward looking infrared (FLIR) and gun camera tapes. Once received and processed/exploited, the imagery is then transmitted over available SIDS device(s) or via other CIS means. Exploited imagery from

**Figure 3-3. Tactical Exploitation Group Concept of Employment.**

*Note: Full operational capability of the TEG is currently anticipated during fiscal year 2001.*

the TEG may then be hosted on the IPL server located with the IIP, from which MEF users can pull images to support future IRs.

## Miscellaneous

### Communications and Information Systems

The IIP has sufficient communications resources to support internal and detachment C2, operations, and intelligence requirements. The IIP will require access to various networks to conduct its operations, to include the SECRET Internet Protocol Router Network (SIPRNET), the Joint Worldwide Intelligence Communications System (JWICS), pertinent MEF local area networks (LANs), and designated wide area networks (WANs). There are, however, no communications personnel organic to the IIP or to the intel bn. Communications requirements beyond these must be provided by communications battalion or the supported unit.

The IIP will require at a minimum a dedicated 512 kilobytes per second communications connectivity via SIPRNET to pull imagery from the MCISU and other sources and to disseminate finished IMINT products throughout the MEF and to others as required. This communication requirement is based upon providing a sustained new imagery production rate of 75 images per day for the IIP which is equivalent to their maximum exploitation capability (based upon the current numbers of imagery interpreters and equipment in the IIP's T/O and T/E) and the baseline projected requirement for the MEF CE and all MSCs to pull from the imagery archive.

**Maintenance**

The IIP is capable of 1st through 4th echelon maintenance of organic imagery equipment through Marines and civilian contract technicians organic to the platoon. All other maintenance support must be provided by the MEF headquarters group (MHG), combat service support element (CSSE) or supported unit.

**Transportation**

Intel bn has limited organic vehicular transportation assets to support IIP operations. External transportation support from the MHG, the CSSE, or the supported unit is necessary to displace the entire IIP simultaneously.

## 3003.   JOINT SURVEILLANCE TARGET ATTACK RADAR SYSTEM COMMON GROUND STATION

## Mission

The primary mission of the J-STARS CGS is to provide the MEF with near-real-time (NRT) access to the moving target indicator (MTI), fixed target indicator (FTI) and SAR data from the Air Force J-STARS collection platform, the E-8C.

## Tasks

- Receive, process, manipulate, store, and display MTI, FTI, and SAR data from the J-STARS sensors simultaneously.
- Disseminate J-STARS data to the MEF G-2, other elements of the MEF, and other forces as directed.
- Assist with the planning and direction of J-STARS operations in support of the MEF.
- Provide the capability to communicate, via voice or digital link, with the J-STARS aircraft.

## Organization

Both I MEF and II MEF will have one J-STARS CGS. All MEFs will have two J-STARS CGS teams and three J-STARS work station teams organic to the systems support platoon, headquarters company, intel bn. Additionally, intel bn's headquarter's MEU support team has three J-STARS workstation teams to support MEU(SOC) deployments and operations.

## Command and Control

Intel bn commander maintains full command of J-STARS CGS activities.

**MEF CE Staff Cognizance**

The MEF commander will usually exercise C2 over the intel bn elements, to include the J-STARS CGS, via the MAGTF intelligence officer. The intel bn commander, as the ISC, performs this function under the staff cognizance of the AC/S G-2. This allows for the centralized direction and effective

integration of J-STARS operations with other MAGTF IMINT operations and the broader all-source intelligence concept of operations.

### Support Relationships
The J-STARS CGS will operate in general support of the MEF.

## Concept of Employment

### E-8C
Although the J-STARS aircraft is operated and maintained by the Air Force, it is considered a national asset. Its primary mission is the dedicated support of a JTF's joint force land component commander or ground component commander under the overall direction of the joint force commander (JFC).

Properly employed, J-STARS is capable of performing intelligence support, attack support, and battle management functions, along with support to special missions. Its sensor suite provides detection and tracking of moving targets through use of MTI, FTI, and SAR radars. Radar data collected by the E-8C is distributed via an onboard LAN to an encrypted, highly jam-resistant surveillance and control data link (SCDL) for real-time transmission to an unlimited number of CGS, to include that within the MAGTF.

### CGS
The CGS generally will be located within the IOC, near the P&A cell. Once the J-STARS information is received from the E-8C at the CGS, the entire MTI/FTI/SAR image will be disseminated throughout the MEF in accordance with intelligence reporting criteria stipulated by the MAGTF intelligence officer. Under routine conditions this data will be disseminated to the P&A cell for follow-on analysis and fusion with other intelligence data into all-source intelligence products.

Additionally, METT-T factors may require that E-8C data be provided to other elements of the MEF. Under such situations, this data is disseminated to subordinate units via the MEF TDN. The MTI/FTI/SAR image, with its associated data, will be viewed by recipients using common USMC hardware and software suites (potentially down to and including the regimental/group level).

## Miscellaneous

### Communications and Information Systems
The J-STARS CGS has sufficient communications resources to support internal C2, operations, and intelligence requirements as well as external

CIS with the E-8C aircraft. The J-STARS CGS typically will require access to the SIPRNET, nonsecure internet protocol router network (NIPRNET), possibly JWICS, and pertinent LANs and WANs. CGS team members operate all organic CIS equipment. CIS requirements beyond these must be provided by the MEF communications battalion.

### Maintenance

The J-STARS CGS team is capable of 1st through 4th echelon maintenance of organic imagery equipment. All other maintenance support must be provided by the MHG or CSSE.

### Transportation

The J-STARS CGS team has sufficient resources to displace all CGS equipment. Additional support will be necessary from the MHG or CSSE to displace CGS personnel simultaneously.

### Selected Items of Equipment

*CGS.* The J-STARS CGS consists of two heavy HMMWVs with integrated shelters and an organic mobile electric power generator. The mission vehicle contains two workstations and associated communications equipment that enable the CGS operators to download, manipulate, and disseminate MTI, FTI, and SAR data received from the J-STARS aircraft. The support vehicle provides transportation for the crew and contains the SCDL antenna that links the CGS to the aircraft.

*E-8C.* The E-8C is a 707-300 series aircraft that has been extensively remanufactured and modified to achieve like-new performance and a greatly extended service life (see figure 3-4). The most prominent external feature of the modified aircraft is the 26-foot long, canoe-shaped radome located



**Figure 3-4. E-8C J-STARS Aircraft.**

**Figure 3-5. E-8C J-STARS Air Force and
Army Crew Onboard Positions.**

under the forward fuselage. An in-flight refueling system extends the E-8C's
11-hour mission endurance, making missions of 20 hours or more possible.
The E-8C's 140-foot long cabin readily accommodates the operator work-
stations communications suite and associated equipment, with space for
rest areas and other crew facilities (see figure 3-5). The standard mission
crew complement is 21, but an augmented mission crew of 34 can be
easily accommodated.

## 3004.   DIRECT SUPPORT TEAMS, P&A COMPANY, INTELLIGENCE BATTALION

### Mission

The mission of DST is to provide enhanced intelligence planning and
direction, analytical, production, and dissemination capabilities to
designated supported-unit(s) intelligence sections.

### Tasks

l  Provide connectivity to the P&A cell for the receipt and dissemination of
   intelligence to the supported unit.
l  Assist the supported unit's intelligence officer in the formulation and
   management of external intelligence support requirements and other
   intelligence planning and direction activities.
l  Tailor P&A cell and other external-source intelligence products to the
   needs of the supported unit.
l  Perform IPB in support of future operations planning.

- Prepare intelligence products to support detailed mission planning and execution by MEF MSCs or other supported units.
- Augment and enhance the dissemination efforts of the supported unit's intelligence section.
- Act as liaison between the supported unit and the P&A cell.

## Organization

There are two DSTs within the P&A company, intel bn. Each team is led by a gunnery sergeant, MOS 0231. Each team also has one imagery analyst (a staff sergeant) to assist with imagery planning and IMINT activities. Finally, other team members include one terrain analyst, two intelligence specialists and one intelligence clerk.

*Note: The DST, however, does not have any specialized IMINT equipment.*

## Command and Control

The DSTs are subordinate units of intel bn, with the intel bn commander maintaining full command of its activities. Under their principal concept of employment, DSTs are under the OPCON of the supported unit commander. The supported commander will exercise OPCON via the unit's intelligence officer. Intelligence taskings to the DSTs will be via the DST team leader in accordance with the supported unit's concept of intelligence operations.

## Concept of Employment

The DSTs are primarily employed as organic teams either attached to or placed in direct support of a designated subordinate commander (e.g., the MEF main effort, a MEU, a special purpose MAFTF. When not employed, DSTs generally augment the P&A cell.

## Miscellaneous

### Communications and Information Systems

The DSTs have sufficient CIS resources to support internal and detachment C2 and intelligence requirements. They typically will require access to the SIPRNET, NIPRNET, possibly JWICS, and pertinent LANs and WANs. There are no communications personnel organic to the DST. CIS requirements beyond these must be provided by the supported unit.

### Maintenance

The DST is capable of 1st echelon maintenance of organic equipment. All higher maintenance is provided by the MHG, CSSE or the supported unit.

### Transportation

Intel bn has limited organic vehicular transportation assets to support battalion and DST operations. External transportation support from the MHG, CSSE or the supported unit generally will be necessary to displace the full DST.

## 3005.   MARINE UNMANNED AERIAL VEHICLE SQUADRON

### Mission

Marine unmanned aerial vehicle squadron (VMU) operates and maintains a UAV system to provide unmanned aerial reconnaissance support to the MEF or other supported units.

### Tasks

l   Conduct aerial reconnaissance (to include imagery collection and reporting), surveillance, and target acquisition. This includes performing airborne surveillance of designated target areas, MEF or other areas of interest, and other areas as directed; airborne surveillance for search and rescue and tactical recovery of aircraft and personnel; and recon-naissance of helicopter approach and retirement lanes in supporting vertical assaults.
l   Provide real-time target information to the direct air support center and fire support coordination center(s) to facilitate adjusting fire missions and close air support.
l   Provide real-time intelligence reporting to the SARC to support MEF IRs and facilitate all-source intelligence operations.
l   Provide information to assist adjusting indirect-fire weapons and to support and facilitate direct air support and air interdiction.
l   Collect information to support BDA and combat assessment.
l   Support rear area security.
l   Provide VMU remote receive station (RRS) capability and liaison to designated units.

### Organization

The VMU is organic to the Marine aircraft wing (MAW) and is structured to operate as a subordinate unit of one of the Marine aircraft groups (MAGs). There are two VMUs within the Marine Corps: VMU-1 (MAG-13, 29 Palms, CA) and VMU-2 (MAG-14, Cherry Point, NC). The VMU is organized into various sections that give it the capability to operate and maintain one UAV system and associated support equipment. Regarding IMINT operations, VMU has one Pioneer short-range (SR) system with five UAVs. Key squadron sections include: the S-2 section, including collec-tions, all-source intelligence and five imagery analysts; UAV systems mission commanders and the external and internal UAV operators within the S-3 section; and the Marine aviation logistics squadron augment section that provides intermediate-level aviation maintenance and supply support.

## Command and Control

### General
VMU is under the command of the MAW CG or, when deployed in support of MAGTFs smaller than a MEF, the ACE commander. The commander exercises C2 via the ACE G-3/S-3 and the Marine air command and control system (see MCWP 3-25, *Control of Aircraft and Missiles*). Air operations (flight taskings, airspace deconfliction, etc.) are planned, coordinated, and controlled by the ACE G-3/S-3 via the tactical air command center (TACC). Intelligence missions, however, are in accordance with the intelligence and reconnaissance mission requirements designated by the MEF or supported unit commander, requiring close coordination between the intel bn's IOC and the MAW's TACC. To assist with UAV mission planning and execution, VMU will generally provide a task-organized team to the IOC, which will typically operate from within the SARC.

### Support Relationships

*General Support.* VMU typically operates in general support of the MEF. Under general support, the MEF commander, through the G-2, determines VMU intelligence priorities and information and intelligence dissemination flow. The AC/S G-2 will exercise staff cognizance of VMU intelligence operations via the ISC.

*Direct Support.* Depending upon METT-T considerations, specified VMU missions may be in direct support of a particular MEF unit or MSC (e.g., to the Marine division or its main effort). In such cases the scope of the supported commander's C2 authority over VMU missions will usually be specified to ensure effective support to the operations while allowing the MAGTF commander to maintain effective C2 of broader intelligence and IMINT operations. Direct support may entail dedicated C2, planning, and exploitation support to the supported unit via a VMU detachment with a RRS capability.

## Concept of Employment

### Operational
VMU can support any size MAGTF. Normal employment would be as an integral unit of the MAGTF's ACE in support of MAGTF operations. The squadron is also capable of limited independent operations.

### Intelligence
The VMU may conduct limited imagery exploitation or analysis. Generally, UAV imagery is screened by VMU imagery analysts for information of

immediate tactical value in accordance with the intelligence collection and reporting criteria stipulated by the ISC or the supported unit's intelligence officer. Imagery tapes are subsequently delivered by VMU to the IIP for further detailed imagery analysis and IMINT and all-source intelligence production. The MAGTF intelligence officer is responsible for subsequent IMINT dissemination (to include secondary imagery dissemination). Figures 3-6 and 3-7 show examples of UAV general and direct support employment.

## Miscellaneous

### Communications and Information Systems
Together with CIS resources supporting the Marine air command and control system (MACCS), VMU has sufficient CIS resources to support internal and squadron C2, operations, and intelligence requirements. VMU typically requires access to various networks to conduct its operations, to include SIPRNET and NIPRNET, and to pertinent LANs and WANs.

### Maintenance
VMU is capable of conducting 1st and 2d echelon maintenance on assigned ground equipment, including motor transport, engineering, and communications equipment. The force service support group (FSSG) or
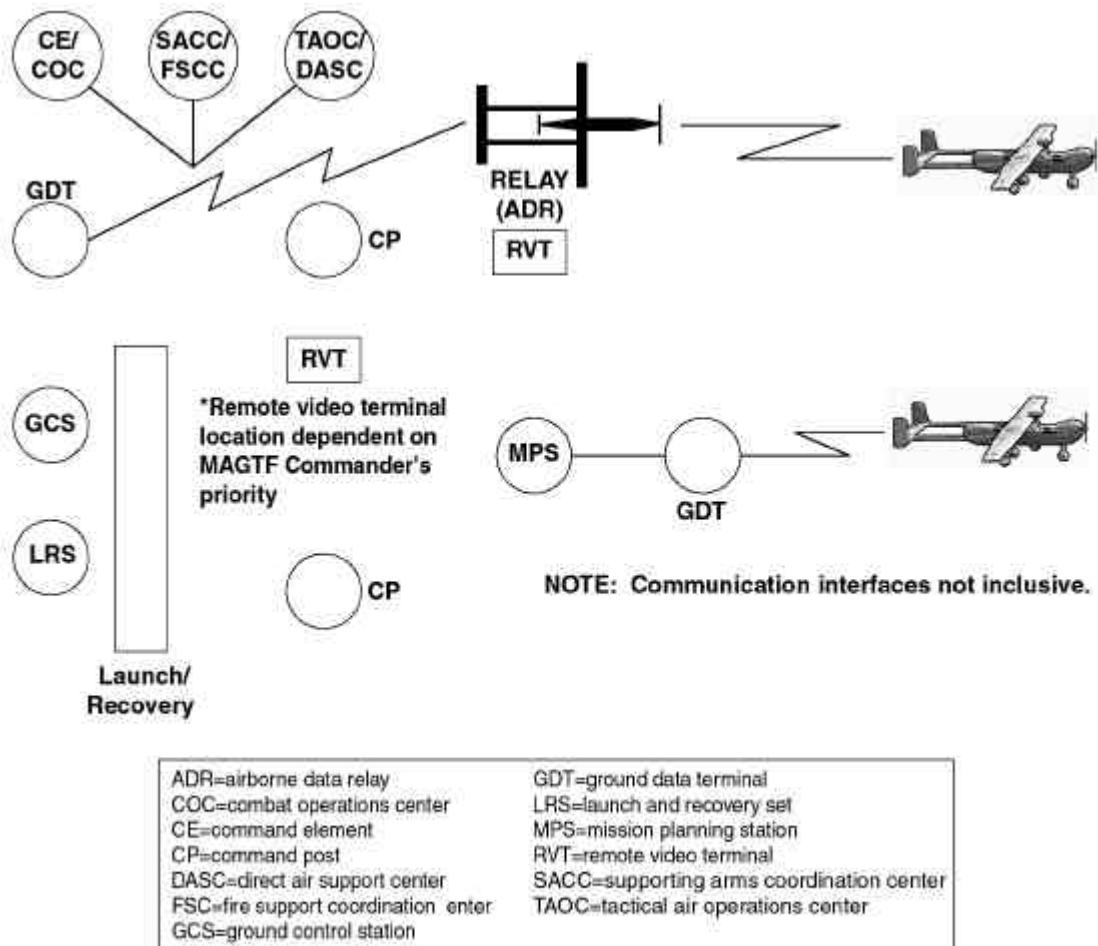


ADR=airborne data relay
COC=combat operations center
CE=command element
CP=command post
DASC=direct air support center
FSC=fire support coordination  enter
GCS=ground control station

GDT=ground data terminal
LRS=launch and recovery set
MPS=mission planning station
RVT=remote video terminal
SACC=supporting arms coordination center
TAOC=tactical air operations center

**Figure 3-6. Pioneer UAV System Setup with Control Stations Collocated.**

supporting CSS detachment performs 3d and 4th echelon maintenance on ground equipment. The squadron is also capable of performing organizational maintenance on its aviation equipment. The Marine aviation logistics squadron performs limited, specialized intermediate-level maintenance on squadron aviation equipment.

### Equipment
See appendix E for detailed information on VMU equipment and on the Pioneer UAV aircraft characteristics and payload specifications.

## 3006. MARINE ALL-WEATHER FIGHTER ATTACK SQUADRON

## Mission

The mission of the VMFA(AW) is to attack and destroy surface targets, day or night, under adverse weather conditions; conduct multi-sensor imagery reconnaissance; provide supporting arms coordination; and intercept and destroy enemy aircraft under all weather conditions.
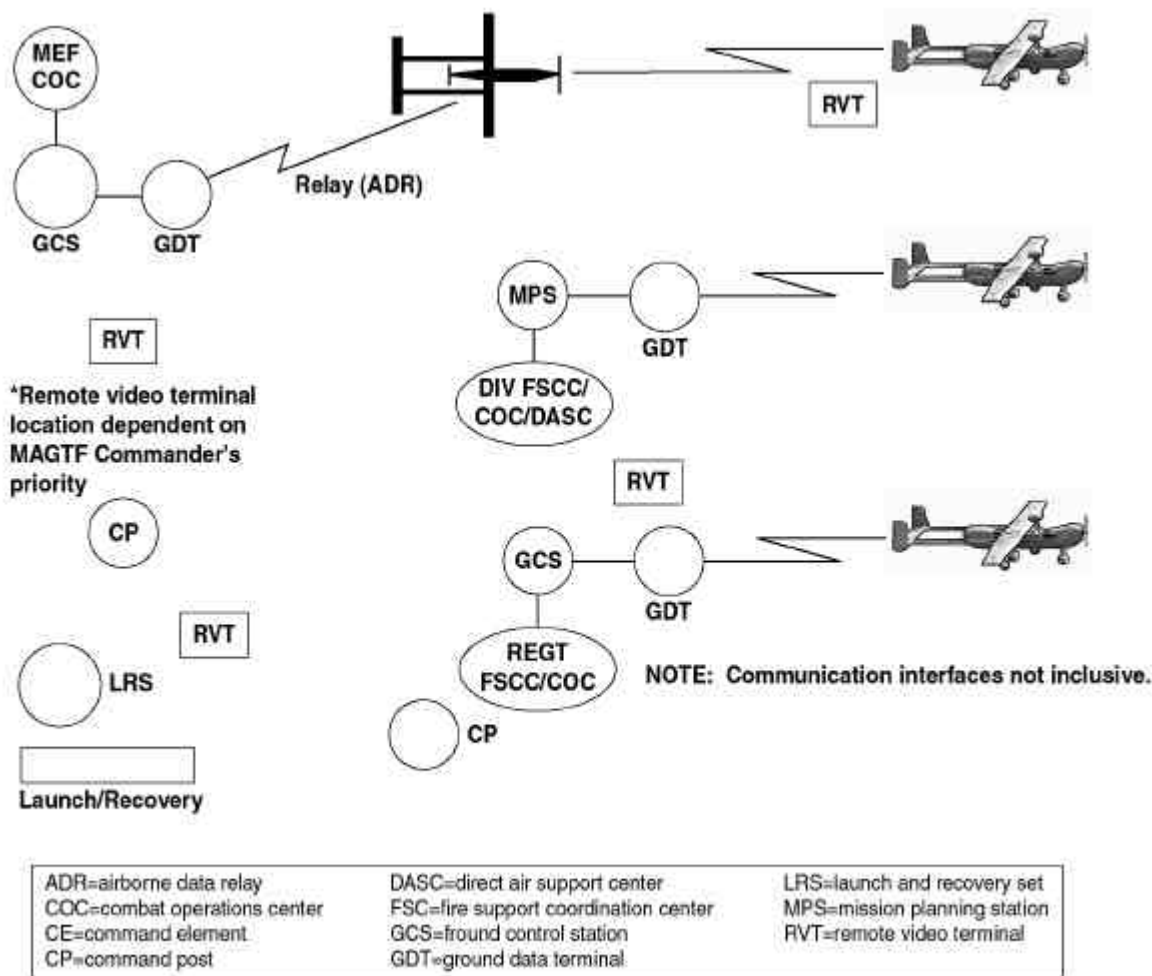


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GCS=fround control station
GDT=ground data terminal
LRS=launch and recovery set
MPS=mission planning station
RVT=remote video terminal

**Figure 3-7. Pioneer UAV System with Control Stations at Supported Elements.**

## Tasks

- Conduct day and night close air support, under all weather conditions.
- Conduct day and night deep air support, under adverse weather conditions, including armed reconnaissance, radar search and attack, air interdiction, and strikes against enemy installations, by using all types of weapons that are compatible with assigned aircraft.
- Conduct multi-sensor imagery reconnaissance, including pre-strike and post-strike target damage assessment and visual reconnaissance.
- Conduct day and night supporting arms coordination, including forward air control, tactical air coordination, and artillery/naval gunfire spotting.
- Intercept and destroy enemy aircraft in conjunction with ground and airborne fighter direction.
- Conduct battlespace illumination and target illumination.
- Conduct armed escort of friendly aircraft.
- Maintain the capability to conduct suppression of enemy air defense operations.

## Organization

There are six F/A-18D VMFA(AW)s in the operating forces. Each squadron has 12 reconnaissance-capable aircraft. However, only four can be configured with ATARS at any one time to provide this aerial reconnaissance capability. The VMFA(AW) will normally function as an integral unit. It is structured to operate as a subordinate unit of a MAG.

## Command and Control

### General

The VMFA(AW)s are under the command of their parent group commander. Overall, OPCON rests with the MAW or ACE commander. The commander exercises C2 via the ACE G-3/S-3 and the MACCS (see MCWP 3-25). Air operations (flight taskings, airspace deconfliction, etc.) are planned, coordinated, and controlled by the ACE G-3/S-3 via the TACC. Intelligence missions, however, are in accordance with the mission requirements designated by the MEF or supported unit commander, requiring close coordination between the intel bn's IOC, the TACC, and supported commanders.

### Support Relationships

*General Support.* VMFA(AW)s typically operates in general support of the MAGTF in accordance with missions contained in the air tasking order (ATO).

*Direct Support.* Depending upon METT-T considerations, specified VMFA(AW) missions may be in direct support of a particular unit or the ACE or CSSE of the MAGTF. The ATO will identify such missions and pertinent C2 and intelligence operations direction.

## Concept of Employment

### Operational
The VMFA(AW) will normally be employed as an integral unit of an ACE in support of MAGTF operations.

### Intelligence
When equipped with ATARS and tasked to conduct imagery collection missions, the squadron coordinates operations closely with the IOC, the MAW's G-2, the IIP, and others as appropriate. Prior to the fielding of the common data link (CDL), exploitation and processing of ATARS imagery will take place once the aircraft has returned to base and the imagery data tapes are physically downloaded and delivered to the IIP.

Once the CDL is fielded, VMFA(AW) will be capable of NRT down linking of selected images; the remaining imagery data will be recorded on tape and downloaded post-mission for follow-on delivery to the IIP for imagery exploitation. Figure 3-8 provides an overview of VMFA(AW) ATARS operations.

## Miscellaneous

### Administrative
The VMFA(AW) is capable of self-administration.

### Communications and Information Systems
Together with CIS resources supporting the MACCS, VMFA(AW) has sufficient CIS resources to support internal and squadron C2, operations, and intelligence requirements. VMFA(AW) typically will require access to various networks to conduct its operations, to include SIPRNET, NIPRNET, and pertinent LANs and WANs.
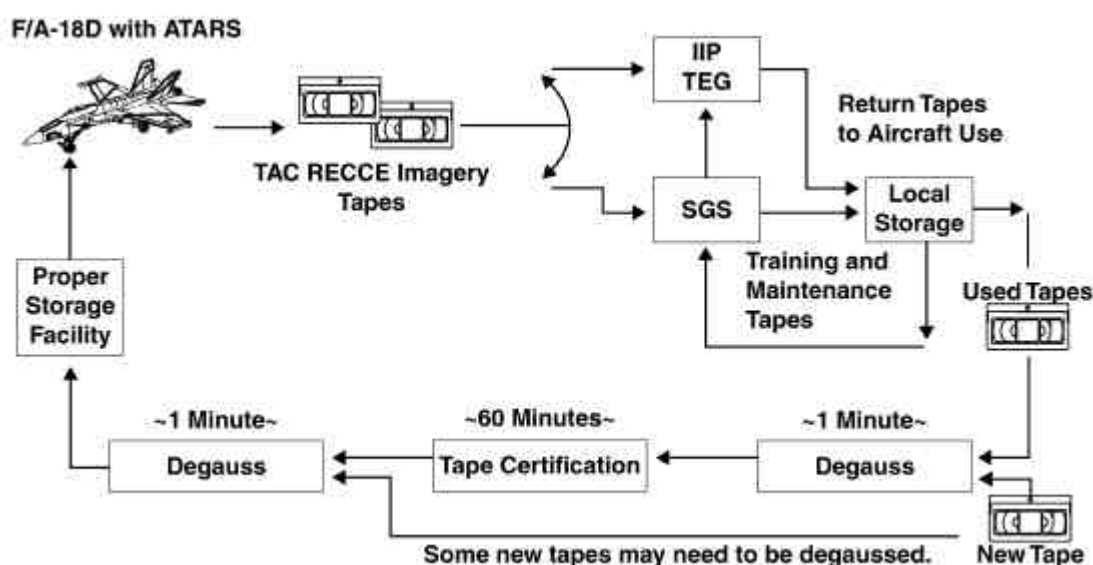


**Figure 3-8. F/A-18 ATARS Tactical Reconnaissance Imagery Tape Processing Flow.**

**Maintenance**

The squadron is capable of conducting 1st echelon maintenance on all assigned equipment. It is also capable of performing organizational maintenance on assigned aircraft and support equipment. Maintenance beyond these capabilities is provided by other ACE and CSSE elements.

## 3007. MARINE LIGHT/ATTACK HELICOPTER SQUADRON

### Mission

Marine light/attack helicopter squadrons (HML/As) provide combat utility helicopter support, attack helicopter fire support, and fire support coordination during amphibious operations and operations ashore.

### Tasks

* Provide fire support and security for forward and rear area forces.
* Conduct point target/antiarmor operations.
* Conduct antihelicopter operations.
* Provide armed escort, control, and coordination for assault support operations.
* Control, coordinate, and provide terminal ordnance for supporting arms, including close air support, artillery, mortars, and naval gunfire.
* Provide point and limited-area air defense from threat fixed-wing aircraft.
* Conduct armed imagery and visual reconnaissance.
* Augment local search and rescue assets.
* Maintain the capability to operate from amphibious shipping, other floating bases, and austere shore bases as required.
* Maintain the capability to operate at night, in adverse weather conditions, and under instrument flight conditions at extended ranges.
* Perform organizational maintenance on assigned aircraft in all environmental conditions.

### Organization

There are six HML/As in the operating forces. Each squadron has 18 AH-1W Super Cobras and 9 UH-1N Huey aircraft, all are reconnaissance capable. An HML/A will normally function as an integral unit, and is structured to operate as a subordinate unit of a MAG.

### Command and Control

**General**

The HML/As are under the command of their parent group commander. Overall OPCON rests with the MAW or ACE commander. The commander exercises C2 via the ACE G-3/S-3 and the MACCS (see MCWP 3-25). Air operations (flight taskings, airspace deconfliction, etc.) are planned, coordinated and controlled by the ACE G/S-3 via the TACC. Intelligence missions, however, are in accordance with the intelligence and reconnaissance mission requirements designated by the MEF or supported

MAGTF/unit commander and exercised via the staff cognizance of the MAGTF G-2/S-2, requiring close coordination between IOC, the TACC, the squadron and the supported commanders.

## Support Relationships

*General Support.* HML/As typically operate in general support of the MAGTF in accordance with missions contained in the ATO.

*Direct Support.* Depending upon METT-T considerations, specified HML/A missions may be in direct support of a particular unit or major support elements of the MAGTF. The ATO will identify such missions and pertinent C2 direction.

## Concept of Employment

### Operational

HML/A will function either as an integral unit or as a squadron (-) with separate aircraft composite detachments. Each HML/A can support the simultaneous deployment of three detachments consisting of six AH-1W and three UH-1N aircraft per detachment. This concept of organization facilitates dual-site operations, provides for the support of simultaneous contingencies, and allows for the fulfillment of continuous unit deployment program requirements.

### Intelligence AH-1W Night Targeting System

The night targeting system (NTS) is an airborne EO system designed to provide the AH-1W crew with the capability to detect, recognize, identify, track, laser range and laser designate targets during day, night, and adverse weather conditions. The NTS is comprised of the following subsystems: FLIR, charged coupled device (CCD) low light level television; direct view optics; AN/ASQ-211 laser designator/rangefinder system and television tracker (TVT); and a super video cassette recorder. The TVT (commonly called the autotracker) and videocassette recorder operate in conjunction with the CCD-TV and FLIR only.

With incorporation of the NTS, the AH-1W Super Cobra provides enhanced air reconnaissance capabilities to include day/night optical and FLIR imagery collection, precision automatic target tracking, laser designation, and video recording. Although the principal purpose of the NTS is to provide Super Cobra gunners the ability to use TOW and Hellfire II missiles and other weapons at full range both at night and through most battlefield obscuration, it is used to collect imagery of a variety of targets during armed reconnaissance missions for follow-on intelligence processing, production, and use.

### UH-1N Night Thermal Imaging System

The night thermal imaging system (NTIS) is an airborne EO system designed to provide the UH-1N crew with the capability to detect, recognize, identify, and laser range targets during day, night, and adverse weather conditions, as well as provide a basic pilotage function. The NTIS is

comprised of the following subsystems: FLIR, laser rangefinder system, and a videocassette recorder.

### Imagery Mission Employment

When AH-1W or UH-1N aircraft is tasked to conduct imagery collection missions, the squadron coordinates operations closely with the MEF's IOC, the ACE G-2/S-2, the IIP and others as appropriate. Follow-on intelligence processing and exploitation of NTS and NTIS imagery will take place once the aircraft has returned to base and the imagery videotapes are physically downloaded and delivered to the IIP. (Figures 3-9 and 3-10 identify the NTS and NTIS equipment on the AH-1W and UH-1N.)

## Miscellaneous

### Administrative

The HML/A is capable of self-administration.

### Communications and Information Systems

Together with CIS resources supporting the ACE's MACCS, HML/As have sufficient CIS resources to support internal and squadron C2, operations, and intelligence requirements. It typically requires access to various networks to conduct its operations, to include SIPRNET, NIPRNET, and pertinent LANs and WANs.

### Maintenance

The squadron is capable of conducting 1st echelon maintenance on all assigned equipment, and capable of performing organizational maintenance



**Figure 3-9. AH-1W with the NTS.**

on assigned aircraft and support equipment. Maintenance beyond these capabilities is provided by other elements of the ACE and CSSE.

## 3008.  GROUND RECONNAISSANCE UNITS

### Mission

The force reconnaissance company and division reconnaissance battalions have the mission of providing amphibious reconnaissance, surveillance, limited-scale raids and other capabilities in support of the MEF (and other MAGTFs) and the ground combat element (GCE). A near-term new IMINT supporting capability to be fielded to these units is the man packable secondary imagery dissemination system (Manpack SIDS).

### Command and Control

Force reconnaissance company and the division reconnaissance battalion are under the command of the supported unit's commanders.

#### MAGTF CE Staff Cognizance

For intelligence and reconnaissance missions the commander will exercise C2 over ground reconnaissance via the unit's intelligence officer. At the MEF level, the AC/S G-2 will exercise this staff cognizance via the ISC. This allows for the centralized direction and effective integration of ground reconnaissance operations with the broader all-source intelligence concept of operations.

#### Support Relationships

*General Support.* Ground reconnaissance units will typically operate in general support of the unit.

*Direct Support and Attached.* Depending upon METT-T considerations, ground reconnaissance units may be employed in direct support of or



NTIS FLIR

**Figure 3-10. UH-1N with the NTIS.**

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attached to a particular subordinate unit (e.g., force reconnaissance teams attached to advance force elements for an amphibious operation; division reconnaissance battalion's platoons or teams attached to or in direct support of the division's main effort). The scope of the supported commander's C2 authority over designated ground reconnaissance teams will usually be specified to ensure effective support to the operations while allowing the MEF or division commander to maintain effective C2 of broader intelligence and reconnaissance operations.

## Manpack SIDS Concept of Employment

Manpack SIDS is a self-contained system comprised of three outstations, a base station, digital cameras, and other specialized devices; communications support must come from other resources. It enables ground reconnaissance units to take pictures of designated targets and then send the images back to the base station over selected communications paths (e.g., high and very high frequency (HF and VHF) single-channel radios and ultra high frequency satellite radios).

The base station then feeds the images into the MAGTF TDN for follow-on dissemination to other MAGTF or other units (figure 3-11 depicts one possible communications architecture for Manpack SIDS). This provides the means to process the images or photocopy sketches even before the team is extracted.

The outstation, with its digital camera component, will be employed by ground reconnaissance teams during missions for imagery acquisition. Imagery collected by the outstation may be stored for subsequent delivery to and analysis by the IIP, or may be electronically transmitted to the base station over organic tactical communications assets for near-real time analysis by the IIP. The base station generally will be employed at the
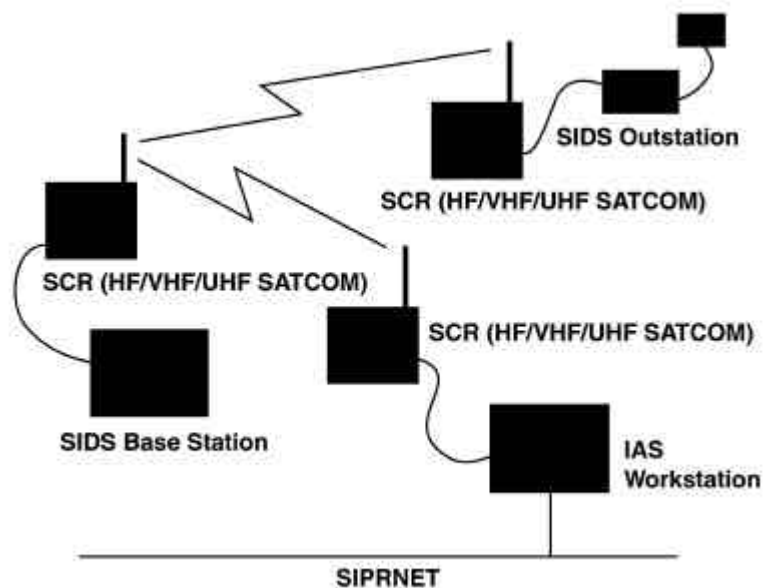
**Figure 3-11. Manpack SIDS Communications Connectivity.**

reconnaissance operations center collocated with the supported unit's main command echelon for receipt, manipulation, annotation, and subsequent re-transmission of imagery collected by the outstation teams.

Depending upon the tasked IRs and the situation, the base station will then disseminate acquired imagery and related information to the P&A cell within the IOC (force reconnaissance team operations), to the division's combat intelligence center for follow-on intelligence analysis, production, and dissemination (division reconnaissance battalion operations) or directly to pertinent unit(s) C2 centers.

Dissemination will generally be in accordance with the intelligence reporting criteria stipulated by the ISC (for force reconnaissance company operations) or the division's intelligence operations officer or supported unit's intelligence officer (for reconnaissance battalion operations) via the MAGTF TDN to the recipient's IAS.

## 3009. TACTICAL INTELLIGENCE PHOTOGRAPHIC CAPABILITY

A program related to Manpack SIDS is tactical intelligence photographic capability (TACPHOTO). TACPHOTO provides an organic digital camera collection and processing capability-but without the palmtop processor and base station organic to Manpack SIDS-to a wide range of MAGTF units (see figure 3-12).

With TACPHOTO, ground patrols, flight crews and others will collect images per their unit's IRs or external taskings. Upon mission completion and return to base, the acquired images will be downloaded into supporting processing resources for follow-on intelligence production and use.
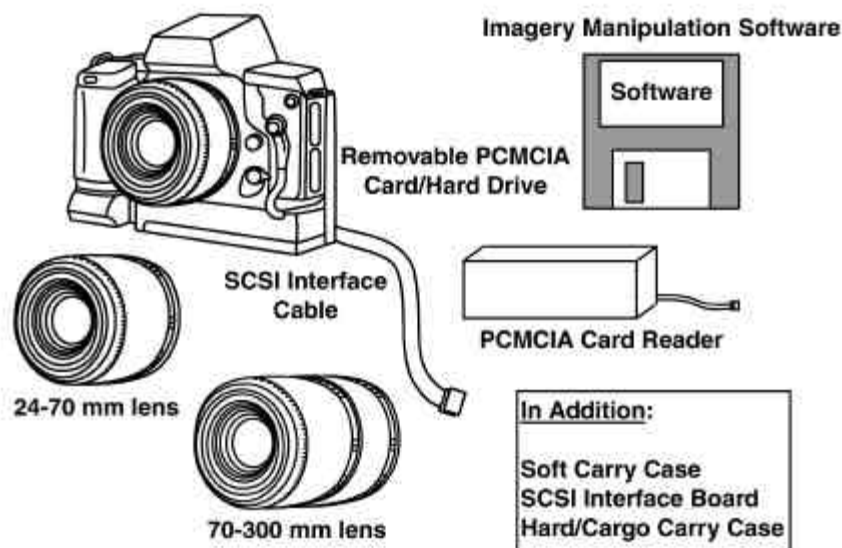


Figure 3-12. Tactical Intelligence Photographic Capability.

Digitized images can also be further disseminated throughout the MAGTF via the TDN. The following units are expected to receive TACPHOTO:

- Marine Division, including—
    - Infantry regimental and battalion headquarters
    - Artillery regimental and battalion headquarters
    - Combat engineer battalion headquarters
    - Tank battalion headquarters
    - Light armored reconnaissance battalion headquarters
    - Reconnaissance battalion
- Marine Aircraft Wing, including—
    - Marine air group headquarters, fixed-wing
    - Marine air group headquarters, rotary-wing
    - Marine fighter attack squadrons
    - Marine all-weather fighter attack squadrons
    - Marine attack squadrons
    - Marine aerial refueler transport squadrons
    - Marine light/attack helicopter squadrons
    - Marine medium helicopter squadrons
- Others, including—
    - MEU (SOC) command elements
    - Intel bns
    - Force reconnaissance companies.